



# MAGAZINE

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# THE I.C.I. MAGAZINE

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The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Richard Keane and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, 26 Dover Street, London, W.1. Telephone: REGent 5067-8. The editor is glad to consider articles for publication, and payment will be made for those accepted.

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*Front Cover: A fifteenth-century fresco at a monastery on Mount Athos.*

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# MORE FOOD MORE GR

## I.C.I. Farms pioneer British

By R. A. Hamilton (Central Agricultural Control)

The I.C.I. Farms are used to carry out experiments on crops and grass. These experiments have indicated how the cattle population of Britain could be increased.

**T**HE reason why the Company operates the Central Agricultural Control farms is quite simple. I.C.I. provides chemicals for use in British agriculture to a total value exceeding some £15 million annually. Indeed, British agriculture, with an annual output now approaching £1000 million, is one of I.C.I.'s largest customers—if not the largest. For the development and sale of these chemicals it has been found necessary for the Company to operate its own farms so that our products can be tested under our own control, thus enabling us to give first-hand advice on their use and suitability in agriculture, both in this country and in overseas markets.

The I.C.I.-owned farms at present administered by Central Agricultural Control are Jealott's Hill Farm (which forms part of Jealott's Hill Research Station), Dairy House Farm (near Middlewich, Cheshire), Henley Manor Farm (Crewkerne, Somerset) and The Leaths Farm (Castle Douglas, Kirkcudbrightshire).

Jealott's Hill Farm was bought by the Company in 1926. It is 535 acres in size and is best described as a mixed arable and dairy farm. It was intended solely as a research farm to provide facilities for the staff of Jealott's Hill Research Station for the testing in the field of the various chemicals in which they were interested. Chemicals for use in agriculture are generally first tested in the laboratory, then on crops grown in pots or on small animals or insects under controlled conditions, then in small plots in the field or on farm animals kept under experimental conditions. Jealott's Hill Farm provides the land for these plots and the animals for the controlled experiments.

In a relatively short time Jealott's Hill Research Station and farm became widely known and attracted visitors from all over the world. Some important original discoveries were made on the Research Farm, and, indeed, farmers and others who visited the station during the thirties still remember and discuss some of the early grass plots which have now become classic. In the late thirties and during the second world war



# FROM ASS

## Agriculture

Control)

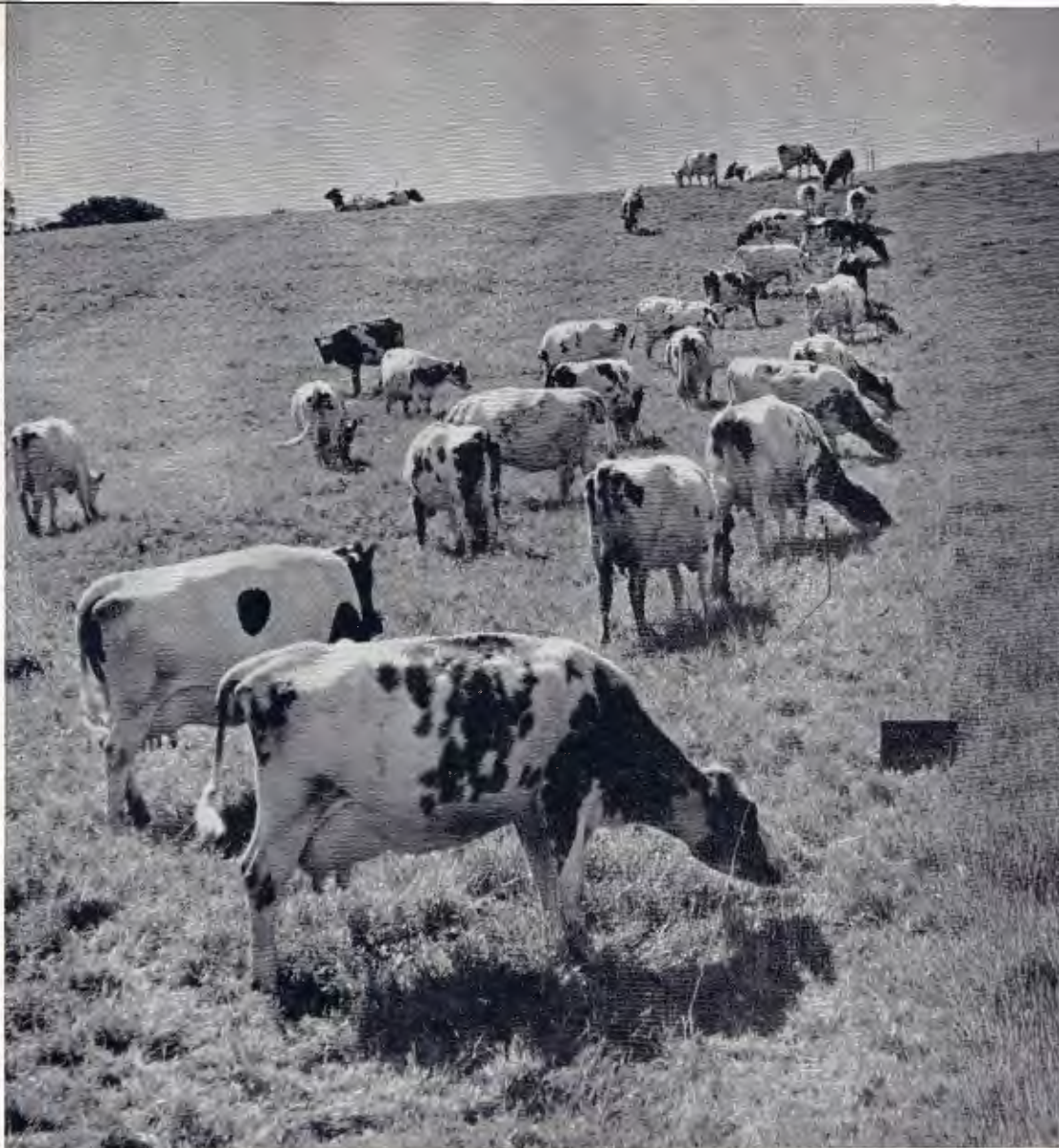
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be tremendously increased.

Jealott's Hill Farm lost much of its experimental character and was farmed almost entirely as a commercial farm until the formation of Central Agricultural Control in 1944. Since then the farm has again been operated as part of the Research Station. Most of the land is used for research experiments in the field, and the farm animals are available for experimental work, mainly in connection with nutrition.

In agricultural experiments variations of weather and soil play a big part. To combat these difficulties large numbers of field plots must be used so that each chemical treatment can be duplicated several times. The experiments, too, must often run for periods of years so that differences in climatic conditions can be taken into account. Some idea of the complicated nature of the work on the Research Farm can be obtained from the fact that in all there are each year nearly 2000 experimental plots on Jealott's Hill Farm and every one of these plots must be treated separately, both at seed time and harvest and, indeed, often throughout the whole year. Crops or grass are often harvested from the individual plots several times during the season, and thousands of analyses must be carried out in the laboratory on samples collected from the field plots.

Jealott's Hill Farm has been used mainly for fertilizer experiments, but it was here that the original work was carried out leading to the very important development of selective weed-killers. Jealott's Hill Farm is now, in fact, known throughout the world as one of the leading research farms of modern times.

The other three farms—Dairy House, Henley Manor and The Leaths—have all been established as experimental farms only since the formation of Central Agricultural Control in



*STRIP GRAZING using the electric fence is one of the secrets of greater productivity from grass. Using this method and with liberal dressings of nitrogenous fertilizer, Henley Manor Farm has led the way in showing how more cows can be carried to the acre of grassland.*



*RICH GREEN NUTRITIOUS GRASS grows rapidly under a dressing of 'Nitro-Chalk'*





THE LEATH FARM in Scotland carries a high-grade herd of pedigree Ayrshires

1944. I.C.I.'s first major interest in the agricultural industry was in the sale of fertilizers, mainly nitrogen. At that time fertilizers were sold largely for use on crops intended for sale by farmers, and the methods used to develop chemicals for the production of these crops intended for sale did not necessitate the Company operating farms of its own, other than the Research Farm at Jealott's Hill.

As knowledge increased, however, and use of fertilizers in agriculture extended, it became clear that on the animal side of British agriculture there was a substantial market for chemicals as yet largely untapped. Development of the use of chemicals in this market required different methods from those found suitable on the arable or cash crop side.

In arable farming the fertilizers are used to feed crops which are then sold, and the value of the chemicals to the farmer can fairly readily be established. In livestock farming the fertilizers are used to feed crops which are then used to feed livestock, and an estimate of the value of the chemicals can only be made through the sale of the animals and the animal products such as milk, eggs, etc. In the development of fertilizers for use on cash crops commercial farmers have been willing from time to time to give up a small section of a field for testing the chemicals in small plots so as to assess their economic value. On the other hand, few commercial farmers can afford to give up the larger sections of their land and the large numbers of livestock required to assess the value of fertilizers in the economy of stockfarming. For this reason Central Agricultural Control came to the conclusion that for the full development of our chemicals on the livestock side of British agriculture it was essential for the Company to have some farms under its own control in typical parts of the country.

This part of C.A.C.'s work rapidly achieved considerable importance, because about the same time as the Company decided to concentrate on the livestock side of British farming, the need to provide the British public with sufficient animal products, milk, eggs, meat, bacon, etc., became very acute owing to the great difficulty and high cost of obtaining these from other sources. Towards the end of the war the emphasis

in British agriculture changed from the production of cash crops to the production of animal products. Now four-fifths of all food produced from the soil of Britain goes to feed animals. In fact, the big problem in the agricultural expansion programme has become the production of feed for animals. This has focused attention sharply on grassland.

Nearly half the food produced in Britain comes from grassland, and in the middle 1940's it became clear that the huge area of grass in Britain could be rendered very much more productive. Increased production from grassland, therefore, became a subject of great national importance. It was also a matter of considerable importance to I.C.I., because grass needs large quantities of nitrogen, and I.C.I.'s main interest in British agriculture is the supply of nitrogenous fertilizers. It was therefore decided to establish three experimental farms in typical stockfarming areas of the country for the purpose of



HAYMAKING is the traditional form of grass conservation. Unless, however, good weather is available and great care is taken this method is apt to be the least efficient.





measuring on a farm scale the value of nitrogen for the production of grass and for obtaining first-hand information on all the problems associated with intensive grass production through the use of nitrogen.

To obtain information on the economic value of nitrogen on grassland it was decided that each of the three farms should be divided into two sections and each section run as a separate farm. The two sections of each farm were to be under one management and were to receive comparable treatment in every respect except that the grassland on one section would not receive any nitrogenous fertilizer and the grassland on the other section would receive liberal supplies of nitrogenous fertilizers. Considerable difficulties were experienced in obtaining suitable farms for this purpose, but in due course the farms mentioned above were selected and prepared for the experiment. The farms are mainly dairy farms, and the

production and use of grass form the predominant feature. All operations on each section of each of the three farms are separately recorded and costed, and an accountant's balance sheet is drawn up for each. In addition there is a small laboratory on each farm, each equipped with a weather station.

Henley Manor Farm was bought by the Company in 1946. The farm was then divided into two and the farm scale experiment began in January 1949. Dairy House Farm, formerly owned by the Alkali Division, was transferred to Central Agricultural Control in 1946, when it was likewise divided into two sections. It has been operated as an experimental farm since April 1949. The Leaths Farm was bought in 1947 and has been operated as an experimental farm in two sections only since January 1951.

Difficulties have been experienced in preparing the farms for the long-term experiments. Preparation included modernisation and modification of old buildings, erection of new buildings, improvement to roads, fences, drains, water supplies, etc., the provision of suitable equipment and the building up of herds. Progress has of necessity been slow. However, it seems that most of the difficulties have largely been overcome and that the farms have now settled down to fulfil their original purpose. Good progress has already been made and interesting preliminary results are being obtained.

The total number of animals carried on the Company's farms has now reached a substantial figure, amounting to more than 1000 head of dairy cattle, 250 head of beef cattle and 1000 sheep, as well as pigs and poultry. With the exception of Jealott's Hill Farm, where Shorthorns are carried, the dairy herds are composed entirely of Ayrshires.

Henley Manor Farm has already achieved a reputation of extremely high yields of grass. Some of the highest yields yet recorded in this country have been achieved at Henley. Henley was one of the first farms to adopt the new method of grazing, known as strip grazing, which is claimed by some to be the greatest single advance in modern grassland farming. This entails controlling the grass offered to the dairy herd by means of an electric fence. Each day the cows get a fresh ration of grass judged to be sufficient for their daily intake. After this has been eaten the electric fence, which is portable, is moved



SILAGE MADE IN PITS is now taking the place of hay on many farms. The grass is carted wet into these pits and then sealed down, when it ferments and is thus preserved in a pickled state.



GRASS-DRYING is the most efficient but most expensive way of grass conservation. It yields a product which remains green and can have a high protein content.





A DEMONSTRATION OF GRASSLAND FARMING at the Dairy House Farm was held on 19th May. Farmers from all over Britain and the Continent gathered to see for themselves the results of I.C.I. methods.

for the next day. In this way the cows milk better and the field produces much more. On a conservative estimate strip grazing gives 25% more production than ordinary free-range grazing, and if this were applied to the country as a whole the increased food which could be produced would be of the order of £50 million annually.

The Leaths Farm has not yet been farmed long enough by I.C.I. to achieve special results in any direction. There seems no doubt, however, that in due course it will have a considerable influence on the farming in the area in which it is situated. Farmers in the south-west of Scotland are very conservative, but it is extremely interesting that several of them have already followed The Leaths by using much more nitrogen on grassland than they had done previously. The Leaths has a specially fine Ayrshire herd, for which we have great hopes.

Although Dairy House Farm was only transferred to Central Agricultural Control from Alkali Division in 1946 it has in fact been farmed by I.C.I. since before the war. Grass production and the production of milk from grass have achieved very high levels at Dairy House, and, in short, it can be said that Dairy House is now one of the best dairy farms in the country and certainly one of the leading farms in so far as the conversion of grass to milk is concerned.

In addition to the dairy herd, Dairy House carries a poultry flock of about a thousand head under the new deep litter system.

Progress in farming is always slow, but we have been very pleased by the results of our grassland work—so much so that C.A.C. felt encouraged to stage an important conference and farm demonstration at Dairy House Farm on 19th May this year. The conference was by invitation and was attended by about four hundred of the leading grassland farmers and tech-

nical agriculturists of the British Isles as well as by representatives of various overseas countries. A considerable compliment was paid to the agricultural work of the Company in that the chair at the conference was taken by one of the leading agriculturists of our time, Sir James Scott Watson, Chief Agricultural Adviser to the Ministry of Agriculture and Director General of the National Agricultural Advisory Service. Sir James stated that the development of grassland was now the backbone of the Government's agricultural expansion programme. Papers were read by two leading farmers and the conference was judged to be an unqualified success and one of the best of its kind to be held in this country. It was reported widely in the agricultural and in the national press and on three B.B.C. programmes, one of which carried a full description of Dairy House Farm.

The farms are thus not only achieving their objective and providing much-needed information on the value of our products in the new British agriculture but they have already helped to add to the high prestige of the Company in agricultural circles. So, in answer to the question "Why should I.C.I. have farms?" we would reply simply "We need them as the apparatus for testing our chemicals, which we sell in very large quantities to one of the largest of our British industries." This experimental apparatus, however, differs from most others in two respects. In the first place, the climatic conditions under which it is used cannot easily be controlled, and thus the experiments must be continued over relatively long periods. Secondly, while the apparatus is in use for experimental purposes it normally shows a useful profit, and at the end of the experiment its value can be expected to be greater than its original cost.



# Information Notes

## THE MEANING OF MEANING

By Kevin FitzGerald (Central Agricultural Control)

*We print below a shortened version of a lively paper on the use of words read by Mr. Kevin FitzGerald to the Agricultural and Veterinary Conference at Buxton on 3rd May. This conference was attended by representatives from several I.C.I. Divisions. Mr. FitzGerald's witticisms clearly delighted his audience, so much so that one report was headed "All This, and Kevin Too."*

EARLY in March I was on the top of a bus in London when two little boys of about 15 sat down just in front of me. They were interested in an account of a boxing match but soon tired of this. 'One said to the other "Let's read about that girl who was strangled," and this they began to do. After a moment one of them said "What does buxom mean? It says here she was buxom." "I don't know," said his companion. "It must be some kind of swear word." They resumed their discussions about boxing, leaving me with considerable food for thought.

I suspect that, off-hand, not half a dozen of us in this room could give a proper dictionary definition of the word "buxom." We all know what it generally means, and in our minds we have all already added the accompanying word "wench." I have, however, looked it up for us, and it means—

1. Tractable, Meek, Gracious, Obliging, Kindly.
2. Flexible and Resisting.
3. Blithe, Bright, Lively, Gay.

And, only fourthly, Plump and Comely.

So much for that.

Most English-speaking people get through the average day on a vocabulary of about 800 words, and these are sufficient for all general purposes. Films and popular newspapers are produced, as you know, on a vocabulary of about 1200 or 1300 plus—in other words, nearly everything we read or see is produced for children or, rather, on the basis that the vast majority of us are mentally children. All jokes in the English language assume, both for the narrator and the listener, a low standard of intelligence and extremely low powers of comprehension. Thus, in any music hall, on any variety broadcast, on any stock exchange, and, indeed, in every club, public house and commercial organisation in the country, the same puerilities have been raising shouts of happy laughter for the best part of a century. No comedian would leave out of his repertoire sausages, mothers-in-law, fat men and women and the sort of gag indicated by "When I saw what he'd done I said good Lord, what 'ave you done!" That, I submit, is a good example of an English joke and one of the surest-fire gags in the business.

The advanced or intellectual joke takes this kind of form: "My uncle was a very honest man." "How can you prove that your uncle was a very honest man?" "I can prove it quite easily because he stood for Parliament and didn't get in."

I have it on high authority that that particular joke has been worked into pantomime every year for very nearly 150 years: it never fails to bring down the house.

The reason why we like this sort of joke is because it puts no strain on the intellect and reminds us of the common exchanges of our fellow citizens on buses, in trams and the like. Our newspapers know this; our film masters know it; and I suspect that ordinary technical people, in their ordinary daily lives as citizens, know it also.

Technical people, however, are very seriously handicapped in life by the fact that they are specialists. Looking through, not rose-tinted but spectacles obscured by, say, ammonia liquor, they see everything their way.

Now this over-lengthy introduction is necessary for an approach to the meaning of meaning. It is fifty years since Sir W. S. Gilbert ended up one of his incomparable jingles with the phrase "This is clever, but I don't know what it means." Today we are all of us bedevilled by cleverness; and this has nothing whatever to do with the intellectual approach to life although frequently confused with it. It is, for example, undoubtedly clever to use a phrase in a farmers' leaflet reading as follows: "Thus environmental conditions which are adverse to the development of the coccidia play an important part in the subsequent reaction of the chicken when it is exposed to infection." This kind of terrifying polysyllabic prose is due to the fact that the modern technical man, such as are all of us here, is quite incapable of simplifying what he feels to be, but which are not, fundamental truths. Alchemists, witch doctors, medicine men and, indeed (forgive me!), pharmacists all suffer from this complex.

These are not critical remarks—they are intended to emphasise the point that the common man only becomes common in relation to something which we know and he does not. He quite often knows a great deal more than we shall ever know, and he sometimes knows the meaning of meaning.

The great bibliophile, Holbrook Jackson, laid it down almost as an axiom that it was much harder to read with intelligence than to write with intelligence, and so it is. When James Joyce was asked what kind of person he expected to be able to read *Finnigan's Wake* he replied "I not only require the whole mind of my reader but the whole of his life as well." Now no farmer, for example, is going to give the writer of a commercial pamphlet his whole mind. We need not bother about his whole life—that we are told is dedicated to serving the community. But as commercial people we must make the best use we can of the small part of his mind which he is prepared to devote to us and, if we are to make our meaning clear to him, we must assume that his mind is as good as our own.



Anyone who has written or told stories to children will tell you that these must be framed in the best language at the command of the narrator. The brothers Grimm knew this, and their prose is a model which should be on the desk of every scientist. The Apostles knew this, especially the Evangelists; so did the translators of the Authorised Version, the crown and glory of the English language. You will not find any polysyllabic prose there. It is all crystal clear. Pick up any of the English classics, anything you like from Clarendon to Thomas Hardy, and what is the hallmark? It is simplicity.

At this stage you will all be saying that the propaganda writers of this Company or of anywhere else are not Coleridge and Keats, Defoe, Hazlitt and the rest of them; not even, alas, Jane Austen or Christina Rossetti, none of whom could write a bad line if they tried. Of course we are not, but we can do what they did. We can churn out the stuff and then sit down and polish it; take out all the adjectives and most of the adverbs; take out every word which is not in common usage, remembering that if we think we must use a word we have given ourselves a good reason for deleting it, remembering too that the scientific commonplace of today is the big laugh of tomorrow, and thus, by self-torture and self-abnegation, arriving at simplicity. But what instead do we do? We tend, I think, to write and talk in our own jargon because only in that way is our meaning plain to ourselves. And thus we develop a cult, a secret language, and all the mumbo-jumbo of the African forest. There is real danger in this. It develops a tendency to employ words in ordinary conversation which mean different things to different groups.

I submit that the first attribute of a writer is humility. He must regard himself as unfitted for the task. And the second is a passionate desire, as Ford Madox Ford used to say, "to make them see." Writing, in the last analysis, is really the painting of pictures in the minds of readers.

A Scotsman (who subsequently shot himself) once said to me that the late Sir Daniel Hall's book on the soil was more exciting than any novel he had ever read. That was because Sir Daniel knew how to write.

The farmers of England were first put on the map of their own country by that great book *A Pilgrimage of British Farming*, which came into existence merely because the editor of *The Times* happened to ask a genius (again Sir Daniel) to go for a motor tour through the British Isles and to write down what he saw. We must keep that kind of example in mind, and we must learn to treat those persons who cannot or will not talk to us in their mother tongue as something a little less than gods. We must control them in this simple matter unless we are prepared to face the grave dangers of permitting specialists to control men and education and thus life itself.

We sometimes, looking at the horrors all about us, tend to say "It couldn't happen here." It happens wherever men grow impatient of explaining their ideas in simple language and proceed to enforce them. Not one man in a thousand in all the world, I imagine, has read *Das Kapital*, and yet the ideas in that book have been enforced over a quarter of the world.

All specialists tend to think of "us" as "they." And yet all the truly great thoughts of the greatest minds have been expressed in language which needed no enforcement on the part of second-rate expounders but went straight to the hearts of men. "Nothing in this life," said Aristotle, "can ever definitely be proved. But even this assertion cannot positively be made." I wonder how often our present-day masters contemplate that age-old truth?

I would remind you that it was men grounded in the humanities who built the British Empire. Wolfe was not ashamed to read Gray's *Elegy* on his way to Quebec. Gordon was reading the Authorised Version when he was killed at Khartoum. They were men of purpose, of judgment, of intellectual capacity; and they were humble, simple men.

Today we think we know everything, and we have lost our position in the world. We must get it back. And we might well begin with the poets and the great writers who set down in language which everybody can understand the world as they saw it and made their meaning plain.

## A LIGHTWEIGHT CONCRETE

By K. A. Lunn (Dyestuffs Division)

A recent Dyestuffs Division product that is being used by the builder and civil engineer for modifying cement and concrete is 'Aphrosol' FC, a foaming agent originally developed for use in firefighting. Porous cement and concrete are used in building (particularly for inside walls) to insulate the spaces enclosed from outside sound. The air entrapped in such porous compositions also provides heat insulation, and underground water mains are often protected from freezing in this manner; district heating systems are similarly protected from heat loss. The preparation of such lightweight cementitious products entails the use of a foaming agent.

Soap, of course, is a foaming agent and will readily provide bubbles or froth—so will many synthetic surface-active compounds—but soap and most of the synthetic products are unsatisfactory for preparing foamed cement and concrete. 'Aphrosol' FC, however, has been specially compounded for this purpose and gives excellent lightweight cements and concretes of small and even pore structure. It provides, one might

say, good hard-wearing bubbles of small size which do not coalesce and escape during setting of the concrete.

There are two methods of using 'Aphrosol' FC. One is simply to stir it into the mix along with the other ingredients and agitate vigorously to entrap the necessary bubbles of air. In the second, or pre-foaming method, control of the density of the mix is more accurate and usage of the foaming agent more economical. The 'Aphrosol' FC is mixed with a part of the water (in a special attachment to the mixer) and agitated until the water has expanded to many times its initial volume. The stable foam produced is then added to the concrete mix, and agitated until a uniform consistency is obtained. The mix is then placed in the same way as ordinary concrete.

The properties of lightweight concrete produced in this manner are remarkable and very suitable for the inside walls of many buildings. It can be sawn, nails can be driven into it without cracking it, and, as mentioned already, in large measure it keeps external sound out and internal heat in.





*A view of the Khewra estate, with the Salt Hills behind*

## DIARY OF A LOCUST INVASION

By H. Buckley (Khewra Works)

*Readers may remember that we carried last January an article entitled "A Synthetic Oasis," which described the gardens which have been won from the desert at the Khewra soda ash factory in the hills of Pakistan. These gardens were subjected this summer to a severe locust attack, which was only beaten off with great difficulty.*

### *Saturday, 2nd June*

The Khewra day workers were stretched out in peaceful slumber. The morning shift was already clocking out in ones and twos, while the afternoon shift was settling down to work in a temperature which though not pleasant was more congenial than usual for the time of year. The burning air of the Pakistan plain was being carried south by a breeze from the snow-capped Himalayan hills, bringing some respite from the heat.

Dark masses began to cloud the sun, casting moving shadows over the hot soil. People looked up at the sky hoping for rain clouds, but all that could be seen were brown masses of locusts flying downwind and keeping very high. The factory telephones were soon in action calling the garden staff from their sleep. Fires were quickly prepared and a few 'Gammexane' smoke bombs were let off to keep the invaders away. By 4.30 p.m. the danger appeared over. Only a few of the swarm had come down to feed, and most of these were eaten up by birds before any damage could be done. The gardeners were kept on till sundown, but the locusts did not return that night. In order to make sure that the estate was well guarded the garden staff were ordered in again on Sunday, but no signs of the pests were seen.

### *Wednesday, 6th June*

The midday break was over and the gardeners were ready to start on their various duties when someone cried "*Makri, bohat makri!*" (Locusts, lots of locusts). The whole garden staff were soon in action, as this time the locusts were flying very low and intended to feed if given the chance.

The factory management soon realised that if the estate was to be kept intact the garden staff would have to be reinforced by factory workers. By 2 p.m. the fight for the estate was on in earnest. 'Gammexane' smoke bombs were let off. Bales of useless sacks were dipped in dirty oil and set on fire. People beat tin cans and others with long sticks beat the trees to dislodge the locusts. Firemen with hosepipes played their part. The works tractor ran noisily up and down. Last but not least, the Laboratory Superintendent sped around on his motor cycle—minus the silencer.

After about three hours of fire, smoke and noise the locusts had been kept on the move so effectively that they left the estate without much damage being done.

### *Thursday, 7th June*

This being the King's birthday, a general holiday had been declared, but owing to the locust menace 70% of the garden



staff were again detailed to be on duty at daybreak in case the locusts returned. The bazaar gossips declared that millions of locusts were resting on the nearby hillsides, and this could only mean that another attempt would soon be made to strip the estate of its succulent foliage.

By 9.30 a.m. a number of locusts were descending on the hospital gardens, and by 10 a.m. the whole estate was one living mass of insects, all bent on destroying those beautiful gardens which were the fruit of so many years of hard labour.

We just could not muster enough people to frighten away the plague, and the locusts were eating up the foliage at an alarming rate. A number of local boys eagerly accepted our invitation to help keep the locusts on the move, but these boys had other ideas than wasting their holiday catching locusts. They soon began themselves to help the locusts in the work of destruction. Fruit and vegetables disappeared along with the foliage, the garden workers having to leave the locusts to chase the boys. By eleven o'clock more and more locusts were descending on us and the fight for the estate appeared hopeless. However, the fires, smoke and noise at last began to tell their tale, and as if by some secret sign the teeming thousands of pests became airborne and disappeared.

A survey of the damage showed that very many trees were almost divested of leaves and the lucerne plots had also been damaged. Many fruit trees had lost their leaves, some very unripe oranges had been stolen, and many other trees had lost their top foliage. The troublesome purple canal weed, which defies weedkillers and uprooting and which spoils the best of lawns, had been eaten off level with the ground. This was our only consolation apart from the fact that the estate still looked green after two very severe attacks by an enemy which could have made the place tone with the surrounding desert.

In future the experience gained will stand us in good stead. All plants of the pea and bean family will be well baited with poison at the first sign of further trouble.

#### *Tuesday, 19th June*

After more than a week's respite the locusts paid us another visit. They hoped to obtain a nice evening meal, with bed and breakfast. Two minutes after the alarm had sounded fires were smoking and people were rushing from their baths to take part in this emergency. This time we had two very noisy motor cycles frightening away the pests, and many people were also lending a hand. After about an hour the danger had passed—to some other unfortunate person's territory.

#### *Wednesday, 20th June*

Further swarms of locusts came in spite of our fires and noise. The Salt Department and the surrounding hillsides were one living mass of the unwelcome pests. By nightfall many locusts were still hanging around, but no mass settlement on to the estate foliage had taken place. As there were grave doubts as to where the locusts were staying for the night, the garden staff was ordered in at daybreak.

#### *Thursday, 21st June*

Only isolated batches of locusts attacked the estate during the morning, and it appeared that our smoke and noise had split the large swarm into many small units. During the afternoon another major swarm tried to settle, but the fires and smoke were again too much for them.

We have almost exhausted our supply of burnable material, and the next attack will be met with the smell and fumes from some old motor tyres.

Perhaps in the near future we may have some device with which to kill this deadly nuisance rather than chase it on to the land of some poor distant farmer.

## FLUORESCENT PIGMENTS

*Contributed by Dyestuffs Division*

Considerable interest has been aroused by the appearance during the past eighteen months of extremely bright coloured posters and display cards, which make normal advertising colours appear very dull by comparison, especially under poor lighting conditions. These new coloured effects are the result of using fluorescent dyestuffs in a special manner.

Light falling on a coloured surface is partly absorbed and the remainder is reflected to the eye, producing the characteristic hue of the surface. The more efficient the absorption of unwanted wavelengths of light, the purer and brighter the colour effect will be. With fluorescent colouring matters, however, it is possible for some of the light absorbed at one wavelength to be re-emitted as light of another wavelength. Accordingly, when the resulting transformed light is of similar colour to the light reflected in the normal way, there is a considerable increase in the total amount of light returning to the eye.

Principally it is light of the shorter wavelengths, including the ultra-violet, which is converted into longer wavelengths corresponding to red, orange and yellow light. In this way selected fluorescent dyestuffs can be used to make surface coatings which emit to the eye as much as 120% of the incident light in certain regions of the spectrum. This is a considerable increase over the proportion reflected by normal coloured inks, which is only of the order of 60%.

The special type of pigment used in the inks consists of fine particles of resin coloured with fluorescent dyestuff. Because of the relatively heavy ink coatings required, printing has been mainly carried out by the silk screen process but it has recently been reported from America that a suitable ink for letterpress printing has been developed.

In the silk screen process the ink is forced through the mesh of a stencil made from a piece of silk or other suitable material stretched over a frame. The stencil is made either by photographic means or is hand-prepared, the meshes in the image areas being left open and those of the non-image areas filled in. A stencil is made for each colour to be printed, and the ink is forced through the silk by means of a squeegee on to the sheet of paper beneath. A good deal of hand operation is involved, and hence to produce a large number of impressions is comparatively expensive.

At the present time the cost of fluorescent inks is high, but as only a small proportion of all publicity matter is printed in this way the eye-catching value appears to warrant the additional expense. If this proportion should increase substantially, however, the eye-catching value would tend to drop, and the future expansion of advertising with daylight fluorescent posters would depend on the possibilities of reducing the cost of the inks.

Most of the inks used up to now have been of U.S. origin, but the majority of ink makers in Great Britain and on the Continent are investigating their manufacture.



# The

# PROCESS WORKER IN ACTION

*Drawn by Arthur Horowicz*

The process worker is the backbone of the chemical industry. Without his never-ending vigilance unceasingly round the clock chemical plants could not work. This article brings you an artist's impressions of a day's work at the Carbide Plant of Castner-Kellner Works, Runcorn.

**C**ALCIUM carbide was not made commercially in this country before the last war. Supplies came from Norway, the U.S.A. and Canada, countries where electrical power from hydro-electric installations is cheap and carbide can be very economically produced. But when Norway fell into enemy hands early in the war and transatlantic shipping space was needed for other vital necessities the two existing calcium carbide plants were built—the I.C.I. one at the south end of the Castner-Kellner works of the General Chemicals Division, Runcorn, and another at Kenfig in South Wales. The Castner-Kellner plant started operating in 1942.

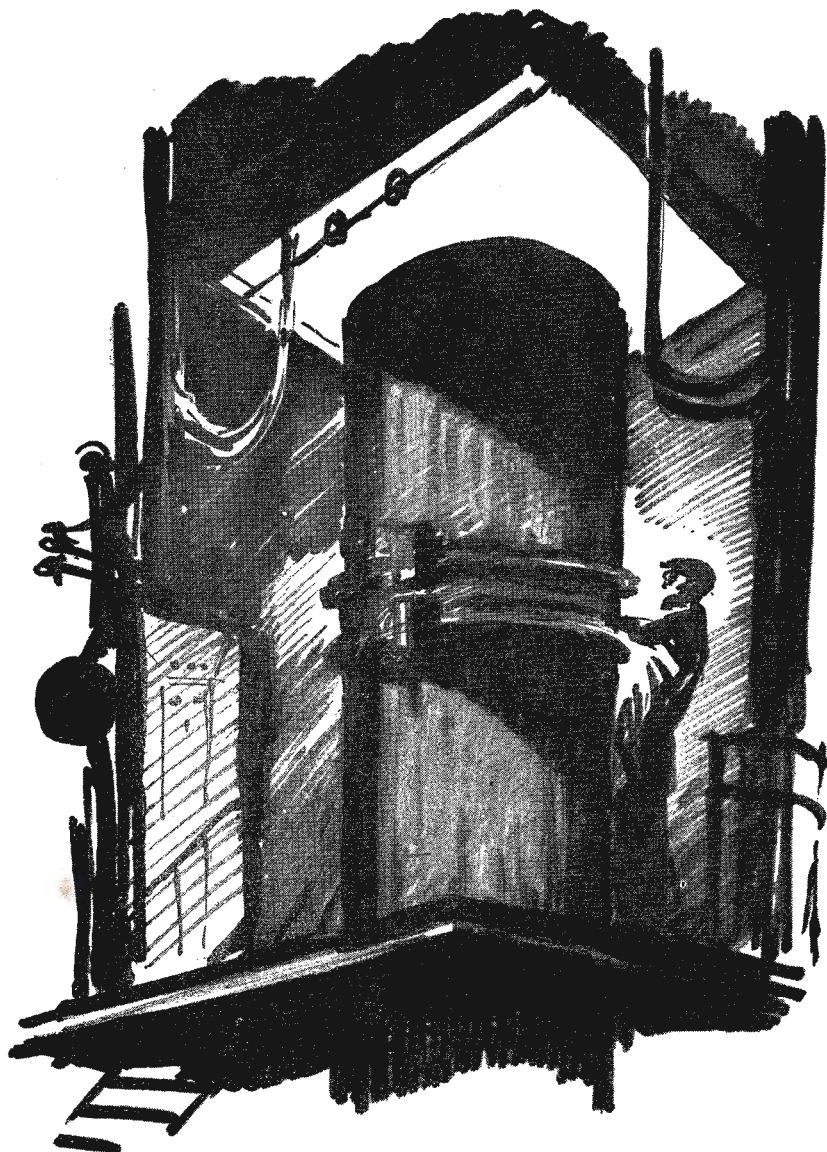
Calcium carbide is the only source of bulk acetylene production in this country. Acetylene, which at one time was used only for lighting purposes, has now become of great importance industrially. It is used with oxygen in engineering for welding, and in the chemical industry it is combined with chlorine to make solvents and plastics.

The essential raw materials for the manufacture of calcium carbide are lime; carbon, usually in the form of coke; electrical energy for the furnace; and carbon paste for the electrode, which forms an arc and at white-hot heat causes the reaction between the lime and coke. The lime and coke react in an electric arc furnace to form calcium carbide. The electric arc furnace is the only type of furnace used industrially which can generate the tremendous heat required to bring about this reaction.



FEEDING THE FURNACE with a mixture of coke and lime. The feeding device, mounted on a runway, is wound along by hand over each bin in turn.





STEEL ELECTRODE CASINGS—there are three above the furnace—are built up section by section. As the furnace burns them away, new sections are welded in.

The centre-piece of the plant at Castner-Kellner Works is the three-electrode, three-phase electric arc furnace. Power to operate the furnace is supplied from the works.

Hard burnt lime from Lime Division at Buxton comes to the plant by rail and is discharged from the railway wagons into a crusher which breaks down the lumps to the required size. The broken-down lime is then taken by an elevator to storage bins. The coke reaches the plant already sized and goes to the coke storage bins by elevator. In the storage bunkers the coke, which may arrive damp, is dried by hot gases drawn from the furnace chimney stacks.

The coke/lime mixture, which is 70 parts coke to 100 parts lime by weight, is made by feeding coke and lime from the storage bins on to belt-type mixing machines which also carry the mixture to bins above the furnace. From these bins the mixture is fed by gravity to the furnace as required.

The furnace itself is on the first floor of the plant. It is a mild steel cylindrical shell, approximately 22 ft. in diameter and 12.5 ft. deep, lined with refractory material and charged with

the coke lime mixture which is heated by arcs from three electrodes to approximately 2400° C.

Molten carbide made by the reaction of the lime and coke is tapped off the furnace at suitable intervals from three tap holes in the furnace wall on the ground floor. The carbide is allowed to run into tapping cars, which are sampled for acetylene yield and later moved to the cooling and crushing section, where the contents after being allowed to cool sufficiently for lifting are removed as an ingot of approximately 1-1½ tons in weight to a cooling tray.

After cooling on the tray for approximately twenty-four hours the ingot is transferred by overhead crane to a breaking bin, where it is broken down by hand to a size suitable for handling by the mechanical crusher.

The crushed material is then mechanically transferred to a rotary screen, where carbide of size 80 mm. or less is screened and passed to storage bins from which it is fed to transport skips by automatic weighing machines adjusted to weigh two tons per operation. These skips are then taken by rail to the acetylene plant.

The key operatives at the plant are the "mixer-and-paste man" who attends to the machinery for making the lime/coke mixture and feeds carbon paste into the electrode casing as required; the leading furnace man, who stands at the control panel on the furnace floor, checking the current supply to each electrode and attending to the mixture strength and current consumption of the furnace; and the leading hand tapper, who sees to the carbide being drawn off from the furnace.

The plant operates continuously throughout the twenty-four hours and four shifts of process workers are employed, three shifts working and one resting. A building near the plant contains shower-rooms, changing rooms and messrooms for the workers, also a laboratory and maintenance workshop. Protective clothing, goggles and masks are supplied to workers to guard against heat, glare and dust.

Typical of the men who work at the carbide plant is 56-year-old Mr. Charles Threadgold. He was transferred to Castner-Kellner in 1929 from Electro Bleach and By-Products Ltd. and since then has worked on many plants, including 'Maxoclor,' perborate, caustic and Cell Room. He lives in Castner Avenue on the Company's estate, only a few minutes' walk from the works.

Mr. Threadgold is a first furnace man, and after clocking in and changing into his working clothes he relieves a workmate on the furnace floor from whom he gets the position of the job. As first furnace man Charles Threadgold controls the flow of coke and lime into the furnace and keeps a check on the control panel. He also helps with raking the coke and lime in the furnace towards the electrodes, using a special long-handled rake for the operation.

Meals are taken in the messroom. The meals, packed into special containers at the works canteen, are delivered by van to the plant, thus ensuring a hot meal at all times. After the meal it is back to the job until changeover time, when he hands over to the next shiftman.





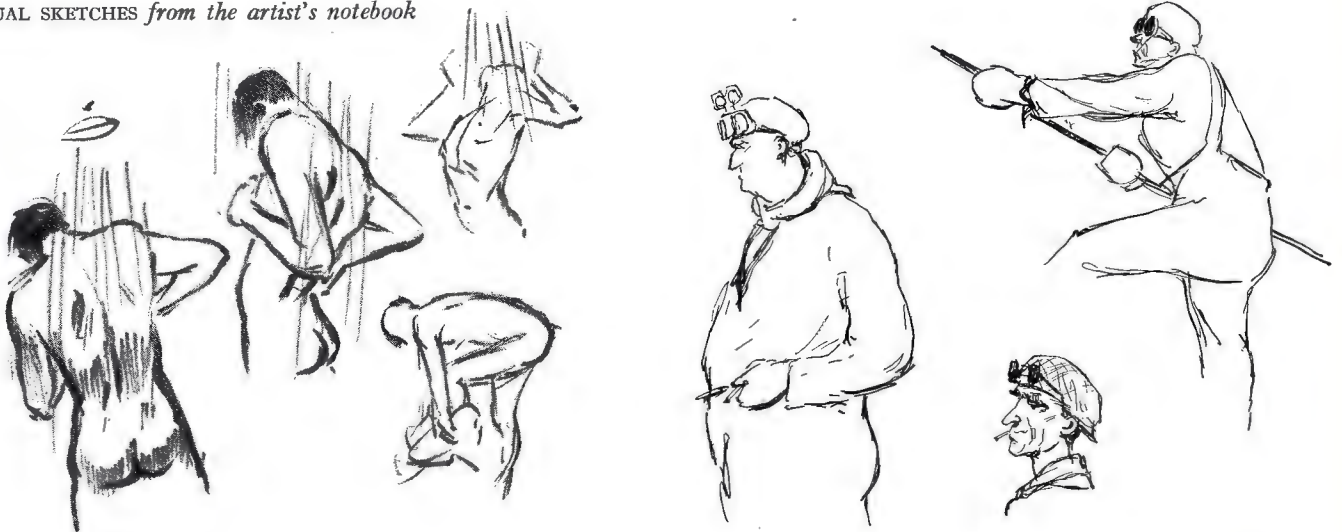
KEEPING A STEADY LEVEL in the gleaming furnace is a constant, strenuous job. A close watch must be kept on the melting mixture to maintain the correct level.





*TAPPING THE CARBIDE—a job requiring great skill and judgment. Every 45 minutes this powerful carbon arc pencil pierces the slag round the molten carbide and releases a silver-white flood into waiting tubs.*

*CASUAL SKETCHES from the artist's notebook*







THE COOLING FLOOR—an impression from the gantry above. It is here that each train of tubs stands to cool after tapping. When cool enough to lift the ingots are taken by crane and laid side by side on the floor so that the tubs can go back for the next tapping.



# JOSEPH DAVIES

(General Chemicals Division)

JOE DAVIES, although of Welsh descent, was born in the steel town of Darlaston in Christmas week fifty-five years ago. He was one of a family of eight children, and like his two surviving brothers was destined to earn his living from steel. His other brother lost his life while serving in the Royal Navy during the first world war.

When he was nine, Joe came with his parents to Widnes, where his father had taken a job at Widnes Foundry, and in 1909 he joined the same firm as an apprentice plater. In 1916, he enlisted in H.M. Forces, was demobilised in 1919, and rejoined

Widnes Foundry. After a few years with them and with Pearson & Knowles, Warrington, he joined Gaskell-Marsh in 1932.

Joe is a boilermaker on M Section Maintenance in Gaskell Works. His short, stocky figure, usually surmounted by a black beret, is a feature of M Section workshops, and when he is not busily engaged with his "pipes and bottles" he is usually assisting in organising affairs for charities or arranging the children's Christmas parties. This flair for charitable work has long been a distinguishing characteristic of a man who has given freely of his leisure time in promoting happiness for others. During the second world war he resigned the presidency of the local branch of the Boilermakers' Society, which he had held for the previous fifteen years, and devoted the whole of his spare time to the Works' Welfare Fund, which collected over £500 and distributed parcels among M Section workers who had been called to the forces. The expenses of administration of the fund were nil, as the amount was collected by hand at the rate of 2d. per employee each week, and the parcels were taken to the home of the parents or wife of the employee concerned to be sent on with family parcels, thus cutting out postal charges. In addition he raised considerable funds for the British Red Cross by arranging whist drives and dances. For this work he received a certificate from the Duke of Gloucester.

He is a stalwart at the Recreation Club, where he spends most of his spare time doing voluntary work in any capacity required. From 1947 to 1950 he was secretary of the Bowling Section, and he has been a member of the club's executive committee since 1942.

In appearance he resembles the late Will Fyffe, particularly when he smokes his pipe, and his rotundity is accentuated by his baggy overalls. Unlike most of his kinsmen, he is generally placid and unruffled by nature and is not affected by any setbacks which may occur at his work. He is ever ready to tackle any job, and can always be found in the thick of it during any repair work. His timekeeping sets an example for all to follow, particularly as he is frequently detained at the Recreation Club until the early hours. For these qualities he was promoted to Staff Grade in 1945 after 13 years' service, which by Gaskell-Marsh standards, where long service is the rule rather than the exception, is fairly rapid promotion. His record since his promotion is most impressive, and in spite of the arduous and sometimes unpleasant nature of his work he has lost only six days through sickness since his promotion.

He is married and has one son, Arthur, who is employed as a joiner at Gaskell-Marsh Works.



Percy Byrnes  
- 51



# The Holy Mountain of Athos

(Photos: Camera Press  
London)

By A. G. Ellis (Paints Division)

Drafted to Greece as an army officer during the war, A. G. Ellis came to know and love the country well, and eventually he became Information Officer to the British Embassy in Athens. The Mountain of Athos is famed for its monasteries. The top picture is of the Monastery of Dionysios, and below is Father Demetrios, a monk aged 93, who entered the monastery seventy years ago.

**I**N the north of Greece a section of mountainous land called Chalkidike bulges downwards into the Aegean Sea. From it extend, rakishly, three fingers of rock and stone, each of which bears a splendid sounding name—Kassandra; Longos; and Agion Oros, or Mount Athos as the latter peninsula is more popularly called. The whole mass has an appearance on the map remarkably like a cow's udder.

Of these three peninsulas Mount Athos is important for here a community of monks practising the Byzantine tradition of Orthodoxy exists in some twenty or more monasteries.

I made a journey to Mount Athos in September last year. There are two ways of getting there, one by sea and the other by land from Salonica. I went by the former and returned by the latter. The tiny caique, which carried passengers and goods to coastal villages around the three fingers of Chalkidike, made the voyage in twenty-one hours. I slept on the planks







IN THE COURTYARD OF THE MONASTERY OF LAURA, *which was founded in 963. The colourful striped shopping bag which the monk carries is of a kind often seen at Mount Athos.*

with my light raincoat for a blanket and had dry bread, goats cheese and apples for food. Water I carried in an army flask. My kit, consisting of sweater, cine-film, camera and tripod, was stowed in an ancient boy scout's ruc-sack.

The monks give the visitor free lodging for up to three days. There are two kinds of monastic arrangement. There are the monasteries known as "Kinobion," where all the brothers and visitors feed together in the refectory at set times; and there are the "Idiorhythmic" monasteries, where the brothers look after themselves as individuals or in small groups.

If the visitor arrives footsore and hungry at a Kinobion monastery he has to wait for the fixed ritual hour before he may eat; on the other hand he may feed at any time in an Idiorhythmic establishment. But he must arrive before sunset, because then the great gates are closed until sunrise and will open for no man no matter what the weather. Such an apparently anti-Christian state of affairs dates from the days when piracy flourished in Greek waters.

Agion Oros, to use the older name for Mount Athos, means literally "Holy Mountain." The Virgin herself is said by legend to have once visited the Mount and because of this the Christian East has regarded the place as sacred. The original



AN ICON OF MOUNT ATHOS. *When an icon is taken down it must never be laid flat on the floor. Unless stood up, it must rest on a mat of curled rope.*



inhabitants of Athos seem to have vanished sometime in the third century A.D., and their place was taken by pious and learned men escaping from the wickedness of Roman Greece, the Levant of Egypt. Today a somewhat decayed form of this monastic life still exists, but gone is its influence on the Christian world. The monasteries are still there—most of

homesteads were made of stern stuff; and even today there are still some men inhabiting these remote anchorages.

The grandeur of the peninsula is past description; the colours of the sea, the trees, the crags, the heavenly silence except for breezes sighing in the pines, the aroma of herbs and fragrant woods, the seven months or more of sunshine—all

these must be experienced first hand to be appreciated, and when they are experienced the monastic life of Athos begins to influence even the most cynical of men.

The history of the Athonites is nevertheless chequered with incident.

As the magnificence of Byzantium grew, so did the cult of monasticism where escapism and learning went hand in hand. The Graeco-Roman emperors themselves supported the Athonites and often founded new monasteries. In 885 Basil of Macedonia went so far as to publish a Golden Bull assuring the monks of their independence. However, in the thirteenth and fourteenth centuries Mount Athos did not escape devastation by pirates.

Mount Athos eventually came under the domination of the Turks who respected the monastic traditions more than they are normally given credit for—at least they did little harm until the end of their own sway some four hundred years later. The Nazis in their turn left the Athonites almost entirely alone; but the Marcos communist rebels have recently abused the state, particularly because they let their female bandits stray across the holy hills—a really terrible sin since the presence of even a female animal is forbidden on Mount Athos. It might not be such an exaggeration to

say that no woman has penetrated Athos (until this recent incident) for about 1200 years or more. One French journalist dressed as a male did get ashore a few years before the war but she was at once apprehended and sent away. The French Consul in Athens was obliged to make an official apology to the Holy Community.

There exist to this day Russian, Serbian, Bulgarian and Rumanian monasteries; and probably there are also a few Armenian monks to be found somewhere in this mixed bag. The Russian monastery of St. Panteleimon was at one time very rich, and the wealth still lingers on in appearance, but



ON THE THRESHOLD OF THE "HOLY DOOR" a monk holds the sacred chalice. In the background is the altar. On either side of the marble columns are icons of Christ and of Mary with the child Jesus.

them needing costly repairs which are quite out of the question in the circumstances of our century.

Asceticism and self-discipline are potent factors in the life of a monk on Athos. The very surroundings demand this, for Athos is a large chunk of uncompromising rock whose highest peak rises to 6000 ft. It is often easier, and infinitely quicker, to move from point to point along the coast by boat, because any land route means making painful detours round stony defiles and requires constant up and down climbing. The hermits who chose perches high up on the precipitous coastal face of Athos upon which to construct their little





THE THREE BIBLICAL FATHERS—ISAAC, ABRAHAM AND JACOB. *A magnificent fresco painted in the fifteenth century in the dining hall of the Monastery of Laura.*

not in reality: for the life in St. Panteleimon is carried on by a handful of tired old men with Mongolian features and Russian tongue assisted by a number of younger Greeks.

In the sixteenth century the number of Athonites was over 6000 but today they are less than 5000. There are twenty monasteries and ten "skhits," the latter being small monasteries each dependant upon one of the main group. The monastic life is directed from the village of Karyes, the seat of "Saint Community"—an assembly of venerable men who represent each monastery. In the early days of Athos, one man known as "The Protos" or "First" led the entire Athonite community, but that was not democratic enough for the Greek mentality, so now the governing is done by this holy assembly.

Cultivation in the areas surrounding each monastery is carried out by lay-brothers, who are excused most ceremonies. A number of male civilians live on Athos as workers and small time inter-monastery traders. In the village of Karyes are shops and cafés, but never a feminine form moves behind the shutters—only bearded men in black robes.

The Athonites keep Byzantine time, that is, about six hours ahead of Britain and four ahead of Greece. They have three

liturgies in the twenty-four hours and the monks are called together for prayer by three kinds of sound; bells, iron bar gongs and beaten wood. The last method is quite a ritual.

A monk, bearing in his left hand a length of old wood shaped like the transom of the Holy Cross and in his right hand a small wooden mallet, walks the precincts of the monastery hammering a strange rhythm. He strikes the wooden bar in several places thus producing a variation of pitch; and these variations of rhythm and pitch are all symbolic—they are in fact a form of language. When one is trying to sleep in the visitor's cell, the queer tattoo creeps in eerily during the early hours of the morning as the sounder monk goes his rounds.

I found all the monks on Athos to be exceedingly friendly and hospitable. They fed me on wine, fish and fruit while I nourished them on news from the outside world. What seemed the greatest wonder to me was the ease with which I shed the outside world—for even after only a few days on Mount Athos the outlines of the most familiar roots became hazy. Other visitors all say the same thing—a certain magic (shall we call it) seems to pervade the spirit. It is something I shall never forget.



# I.C.I. NEWS

## I.C.I. BOARD APPOINTMENTS

Four new appointments have been made to the I.C.I. Board. Mr. P. C. Allen, Mr. E. A. Bingen, Mr. R. C. Todhunter and Mr. A. T. S. Zealley have been appointed additional directors of the Company with effect on and from 24th July. Also with effect on and from the same date the number of groups has been reduced from six to five, by the amalgamation of Group D (Metals) and Group E (Nobel) into one group to be known as Group D (Metals and Nobel).

The I.C.I. Board is now as follows:

### Chairman

Mr. J. ROGERS

### Deputy Chairmen

Dr. A. Fleck, Mr. A. J. Quig

### Lay (or Non-Executive) Directors

Sir John Anderson, Sir Peter Bennett, Sir Andrew Duncan,  
Lord Glenconner, Lord Weir

### Executive Directors

(in addition to Chairman and Deputy Chairmen)

### Functional

Commercial .. .. .	Mr. W. J. Worboys
Development .. .. .	Mr. W. F. Lutyens
Finance .. .. .	Mr. S. P. Chambers
Overseas .. .. .	Mr. E. A. Bingen, Mr. R. C. Todhunter
Personnel .. .. .	Dr. C. J. T. Cronshaw, Mr. H. O. Smith
Research .. .. .	Sir Wallace Akers
Technical .. .. .	Sir Ewart Smith

### Group

Heavy Chemicals (A) .. .. .	Mr. J. L. S. Steel
Dyestuffs and Pharmaceuticals (B) .. .. .	Dr. C. J. T. Cronshaw
Ammonia and Agriculture (C) .. .. .	Mr. A. T. S. Zealley
Metals and Nobel (D) .. .. .	Sir Arthur Smout
Paints and Plastics (E) .. .. .	Mr. P. C. Allen
'Terylene' Council .. .. .	Mr. W. F. Lutyens
Wilton Council .. .. .	Mr. A. T. S. Zealley

### Mr. P. C. Allen

Mr. P. C. Allen, who has been chairman of Plastics Division since May 1948, was educated at Harrow School and Trinity College, Oxford, where he graduated M.A., B.Sc., with honours in chemistry.



He joined Brunner, Mond and Co. in October 1928 as a chemist. After experience at Sandbach and Lostock Works and a period in the Research Department, he transferred to the Techno-Commercial Department in 1931 and remained there for ten years. He went on the Alkali Commission to Canada in 1933.

Mr. Allen became a director

of Alkali Division in April 1941 and served as visiting director of Plastics from April 1942 to August of that year, when he was promoted to Joint Managing Director of the Division. He was also visiting director of Leathercloth Division from September 1942 until October 1945.

Mr. Allen is interested in golf, cricket, railways, foreign travel and foreign stamps. His interest in railways has continued since boyhood. He is the author of a monograph on the railways of the Isle of Wight and numerous contributions to the technical press.

### Mr. E. A. Bingen

Mr. E. A. Bingen, who has been head of the Legal Department and I.C.I.'s solicitor since 1st December, 1940, was born in London and educated at Cheltenham College and St. John's College, Oxford.

He served as a subaltern in the Royal Sussex Regiment in the first world war, but after being wounded transferred to the Royal Air Force as an observer and did one of the early parachute descents.

On demobilisation in 1919 he went up to Oxford and passed out at the Final Honours School of Jurisprudence with first class honours in 1921. He was admitted as a solicitor in March 1924. At the Final Honours Examination he was placed first in First Class Honours and won not only the Clement's Inn Prize but also the Scott Scholarship for the best candidate of the year.

After experience in the City in the practical working of the law and as a managing clerk he joined the newly formed Legal Department of I.C.I. as an assistant solicitor. He worked closely with Mr. William Morris, then head of the department, until Mr. Morris retired, in January 1934, when he was appointed joint head of the department.

Mr. Bingen lives in London, is married to the daughter of a Chancery barrister and has one daughter.





### Mr. R. C. Todhunter

Mr. R. C. Todhunter is the second son of Mr. B. E. Todhunter, late Personnel Director of I.C.I. He was educated at Osborne and Dartmouth and served with the Royal Navy until 1927, when he came to I.C.I. as an assistant in the Foreign Department.



When he first joined the Company he spent three months touring Divisions, six months in Vienna and three years in Australia. He then came to the Australian Associated Companies Department, where he remained until 1939.

At the outbreak of war in 1939 he returned to the Royal Navy and served on H.M.S.

*Furious* in the North Atlantic until sent to hospital in the winter of 1940. But when his health improved he went to the Admiralty, was promoted to Commander and later to Acting Captain and served as deputy to Captain Lord Reith, R.N.V.R., then Director of Combined Operations Material. Captain Todhunter succeeded Lord Reith as Director in 1944.

He returned to I.C.I. in March 1946 and spent three months compiling a report on the Company's overseas staff. He was appointed I.C.I.'s Deputy Controller of Purchases on 1st October, 1946, and Purchases Controller on 1st June, 1947.

### Mr. A. T. S. Zealley

Mr. A. T. S. Zealley was born at Colyton, in Devon, and educated at Wellington School, Somerset, and University College, London. He joined Brunner, Mond and Co. on 1st January, 1920, as a member of the Nitrogen Fixation Department, which that company had set up in connection with their acquisition of the Billingham site from the Ministry of Munitions in order to develop the production of synthetic ammonia. Later he transferred to Runcorn for the erection of the first synthetic ammonia plant at the works of Messrs. Castner-Kellner Ltd., Weston Point.



In June 1921 he was transferred to Billingham, was concerned with the early semi-technical research work, and in 1924 was appointed the first process manager at Billingham. He was promoted general works manager at Billingham in 1928. In 1931 he was appointed to the Board of Fertilizer and Synthetic Products Ltd., and in 1934 he became managing director in succession to Dr. R. E. Slade. He has been chairman of Billingham Division since October 1945. He is also a visiting member of the Dye-stuffs Board and a member of the Wilton Council.

His principal hobby is "taking an interest in the countryside, past and present, and walking about in it," and he is a member of various antiquarian societies.

### Mr. A. J. Grimwood

*A former colleague and friend in Technical Department has contributed the following appreciation of Mr. A. J. Grimwood, late head of the Technical Department, I.C.I., and a director of Nobel Division.*

Mr. A. J. Grimwood, who died at the end of June after a long illness, will long be remembered by those who were in close contact with him, both inside and outside I.C.I., as a rare example of wisdom, modesty and fortitude. Following a family tradition he trained as a chemist, and after a short period at the explosives factory at Great Oakley in Essex he joined the staff at Ardeer in 1905. In due time he became a member of the Nobel Technical Department, which has produced many of the Company's leaders, and went to manage the Chilworth factory for a time, returning to Ardeer after the 1914-18 war. In 1927 he went to London as one of the original members of the London Technical Department of I.C.I. and was afterwards appointed to the board of the Nobel Division. His knowledge of some aspects of the explosives industry was unique in the Company, and his advice was often sought by, and freely given to, Government authorities. He was one of the very few civilians to have been a member of the Ordnance Board. Well before 1939 he was commissioned by Mr. Rogers to encourage the preparation of passive defence measures for the war which, it seemed only too obvious to some of us, must come. It was mainly due to his original work and his continued personal effort during the war that our defence measures reached the high standard which stood several I.C.I. factories in good stead when they were attacked.



During the whole of his working life, Mr. Grimwood was dogged by ill health and suffered many serious illnesses. He was, in truth, never free from pain, a fact which makes his high qualities as a chief and colleague all the more remarkable. Only his ill health, we know on the best authority, prevented him from reaching the highest ranks in the Company. To all who worked for him he was, under a somewhat forbidding exterior, kind and considerate, but to those in whom he detected latent ability he made available an unceasing flow of vast experience, flavoured with mordant wit, astringent comment and bubble-pricking humour. He was the best type of leader who encouraged—indeed, compelled—his juniors to think for themselves, and he saw that they got credit for their work.

He sought no honours for himself, had a lively aversion from personal publicity, and never failed swiftly to detect insincerity or an ill-prepared argument. He had deep affection for Scotland and the Scots, among whom he had spent so many years; and he loved flowers, of which he had great knowledge. It was typical that the only recognition he would accept for services to his country was a silver tankard, unremarkable except that it is engraved with the royal arms. His complete integrity represented an exacting standard from which he never departed and which remains a lasting inspiration to everyone who worked with him in his forty years of service.



## I.C.I. Rifle League

We have received the following report from Mr. James Cullen, honorary general secretary of the I.C.I. Rifle League.

After a lapse of many years it was decided to re-form the league with a view to encouraging the sport of rifle shooting within the Company. The first season was, of necessity, somewhat of an experiment in view of the lack of knowledge of the capabilities of a great majority of the entrants, but with information now gathered the task of classifying teams in appropriate divisions will be much easier and will result in closer competition in the various sections.

The total of 22 teams entering was most encouraging for the first season and arrangements are going ahead for next season, when it is hoped that an even larger entry will be received.

Hereunder are given the final league tables together with the individual aggregate winners.

Congratulations are due to Kynoch A, Billingham B and St. Rollox for winning their respective divisions, and so far as individual averages are concerned we congratulate Messrs. John Hall (now British champion) and T. J. Knight (both of Kynoch) for their wonderful average in Division 1. G. Hartley of Billingham B put up a very good average of 99.4 in Division 2 and G. Boothroyd with an average of 97.1 won the aggregate for Division 3.

### 1950-1 RESULTS

DIVISION 1	S.	W.	D.	L.	Pts.	Agg.
1. Kynoch A .. ..	5	5	0	0	10	2482
2. Ardeer .. ..	5	4	0	1	8	2450
3. Billingham A .. ..	5	3	0	2	6	2454
4. Kynoch B .. ..	5	2	0	3	4	2414
5. Chance and Hunt A .. ..	5	1	0	4	2	2404
6. Castner-Kellner .. ..	5	0	0	5	0	2387

#### Individual Averages

J. Hall (Kynoch A) .. ..	99.8
T. Knight (Kynoch A) .. ..	99.8
N. Ackroyd (Billingham A) .. ..	99.4
F. Brookes (Kynoch A) .. ..	99.2
J. Young (Ardeer) .. ..	99.2

DIVISION 2	S.	W.	D.	L.	Pts.	Agg.
1. Billingham B .. ..	6	6	0	0	12	2928
2. C/E Dept., Runcorn .. ..	6	5	0	1	10	2896
3. Nylon A .. ..	6	4	0	2	8	2879
4. Widnes .. ..	6	3	0	3	6	2861
5. Chance and Hunt B .. ..	6	2	0	4	4	2764
6. Buxton .. ..	5	1	0	4	2	2314
7. Hillhouse A .. ..	5	0	0	5	0	1912

#### Individual Averages

G. Hartley (Billingham B) .. ..	99.4
L. Booth (Runcorn) .. ..	98.0
J. Brown (Widnes) .. ..	97.4

DIVISION 3	S.	W.	D.	L.	Pts.	Agg.
1. St. Rollox .. ..	8	8	0	0	16	3792
2. The Frythe, Welwyn .. ..	8	6	0	2	12	3659
3. Nylon B .. ..	8	5	0	3	10	3639
4. Middlesbrough .. ..	7	5	0	2	10	3176
5. Nobel (Glasgow) .. ..	8	3	0	5	6	3283
6. Sheffield Area Office .. ..	6	2	0	4	4	2451
7. Hillhouse B .. ..	7	2	0	5	4	2377
8. C/E Dept., Runcorn B .. ..	5	2	0	3	4	2219
9. Hillhouse C .. ..	7	0	0	7	0	2555

#### Individual Averages

G. Boothroyd (St. Rollox) .. ..	97.1
R. D. Smith (St. Rollox) .. ..	96.6
R. Johnston (St. Rollox) .. ..	95.3

## Imperial Chemical House Luncheon Club

The release in January by the Board of Trade of the seventh and eighth floors of Imperial Chemical House made pre-war members of the Luncheon Club speculate as to how soon the club would reopen and as to the type of service which would then be available. After general use as offices during the period of requisition much work has had to be done to restore these two floors. Some work is well advanced, much more has still to be completed. The completion date will depend on many factors including the progress made by the contractors and their sub-contractors, and on the supply of the many items of new equipment. These arrangements are in the hands of the Company's architect, Mr. R. H. A. Jones, A.R.I.B.A., who was so directly concerned with the building of I.C. House in 1929.

Special features incorporated into the eighth floor include the rearrangement of the main centre section of the dining hall known as the refectory. This is being equipped with a refrigerator cabinet complete with glass front, to be used for service of cold meats and salads, sweets and ices. The southern end of the refectory is being converted into a special dining room for use by the senior staff of Head Office and visiting members from the Divisions. The end section of the eighth floor is being refurnished for use as separate dining rooms with accommodation for large and small parties of visitors from both home and overseas.

Much attention has been paid to the problems of colour and furnishings. A special sub-committee was formed to consider the desires of the staff and to make recommendations to the architect. Much valiant work has been performed by all concerned. The aim has been to provide a luncheon club worthy of the Company, and to that excellent end everybody has responded with a will.

## A Moving Story

Four Head Office departments moved back to I.C. House, Millbank, from their temporary homes during July. Development Department vacated 21 Knightsbridge, and Central Staff, Central Labour and Pensions and Assistance Funds Departments moved out of 2 Grosvenor Place. The following account of the organisation behind the move has been contributed by a Head Office Magazine correspondent.

When the Editor persuaded me to write about the move of the outlying departments back to Millbank I thought it seemed too simple. After all, what *did* it entail? On a Friday afternoon one turned out and tore up a number of papers that one had meant to get rid of anyway for years, cleared out the old pipe cleaners, paper clips, tobacco tins and junk that seem to infest one's desk, and stuck a few labels on the furniture. On Monday morning one arrived on a bus with a different number on it, walked into a room where the only difference seemed to be the view from the window, and proceeded to fill one's desk with papers, pipe cleaners, tobacco tins, etc., as before.

Then it struck me that someone must have been working during the week-end, and I went along to see Mr. H. G. Harris, the Head Office engineer in charge of I.C. House.

I found that the story went back many weeks, when plans of the accommodation were passed to the departments concerned so that rooms might be allocated. With this complete it was possible to arrange for telephones to be installed and a directory compiled. It was then necessary to decide on the



actual date of removal, and in particular whether this should be done at a week-end, so as to interrupt work as little as possible, or during normal working hours. Once it had been agreed to move at the week-end estimates were obtained for the removal and a contract was placed.

An important factor which next had to be considered was loading of floors. Large numbers of heavy cabinets, perhaps weighing up to 4 cwt. each, cannot be placed indiscriminately in rooms; plans therefore had to be made showing the exact position that each numbered cabinet must occupy so that the weight should be evenly distributed.

Meanwhile a note was issued to each member of the staff involved containing information on the facilities at Millbank, luncheon arrangements, lift services, medical services, etc., and a further note giving exact details as to the labelling of furniture and the packing of papers. Arrangements had to be made for electricity and gas meters to be read, and for supplies of these and of water to be discontinued, telephone contracts had to be terminated and the cleaning of the vacated rooms provided for.

Although the actual move was the responsibility of the contractor it was necessary to provide staff to control the entrances and lift services at each end so that the flow of the move should be smooth and to ensure that furniture was placed suitably in each room. In the case of the move from Grosvenor Place some thirteen I.C.I. staff were on duty apart from members of the departments involved. The contractor's staff of fifty, together with these men, completed their task in twenty-nine working hours spread over the whole week-end, carrying forty loads of equipment in the largest size of pantechicon.

Even with the move finished the story is not complete. On the Monday a staff of porters stood by to make final rearrangements for furniture, electricians coupled up office machinery, repairs were carried out where minor damage had been caused to furniture, new racks were provided for filing cases, and alterations were made where necessary to place telephones in the most convenient positions in each room. Arrangements previously made for in and out correspondence and for commissionaire services were put into effect, and so, with no more than an hour or two's interruption, the departments concerned settled down to work again.

## ALKALI DIVISION

### *Northwich Festival of Britain Celebrations*

Nearly 11,000 people saw the Alkali Division stand in the exhibition of local industries and trades which was part of the Festival of Britain celebrations at Northwich. The products of the Alkali Division, with the exception of soda crystals, are essentially raw materials for industry, and not as such of great direct interest to the average man in the street. The current demand at home and abroad for most of the Division's products is already greater than the supply, even with the plants at their present top makes.

Surprisingly little is known about the Alkali Division, however, even by its own employees and their families. The Alkali Division stand, therefore, was designed to sell not its products but the Alkali Division itself. Ninety-nine people out of a hundred would be hard put to it to mention an Alkali product other than washing soda, "bicarb," or possibly water-glass; yet, as the Alkali stand told its visitors, if all the products

that the Division produced in one day were to be made into a goods train, there would be three miles or so between the engine and the guard's van—enough, in fact, to deliver a 2 cwt. bag of washing soda and bicarb. to every man, woman and child in the British Isles once a year.

The stand set out to tell the British housewife how grateful she was to the Alkali Division every second of the day and night, did she but know it. It showed how almost everything she touches, uses and sees in her daily life requires an alkali product in one stage or other of its manufacture. It further showed something of more than 400 industries to which alkalis are as essential as coal and explained how it was *their* products that make modern life, as we know it today, possible. In the front of the stand, a flowsheet animated by five circuits of brightly coloured liquid ceaselessly moving laid bare to all the working of the ammonia-soda process, while a series of lights against the raw materials and products switched on and off to illustrate a short lecture automatically broadcast every five minutes.

### *Mond Nickel Company 50th Anniversary*

The Mond Nickel Company was founded in 1901 by Dr. Ludwig Mond, and a nickel refinery using his process was



*The Alkali Division relay teams. Left to right: (standing) Messrs. F. A. Royle, A. Wilkinson, A. I. R. Dow, A. Bates, J. Wilding; (kneeling) Misses B. E. Bonner, B. K. Hough, B. A. Taylor, M. Parry*

established at Clydach, near Swansea. The company celebrated its 50th anniversary by a jubilee sports meeting, and as a tribute to its founder held this event at Clydach. Normally the annual sports meeting is at Birmingham.

The chairman and board of the Mond Nickel Company paid a further graceful compliment to the Mond tradition by inviting the Alkali Division to send two relay teams to compete at the sports. The members of the women's team each ran 110 yards, while the men's team ran a mile divided into one half-mile, one quarter-mile and two 220 yards. In both events the Mond Nickel teams were deserving winners, but the members of the Alkali Division teams were most generously rewarded for their efforts by souvenir silver cups.

In the evening supper was served for the competitors and their friends; there was dancing on the sports ground and finally a magnificent fireworks display.



## BILLINGHAM DIVISION

### *Mr. W. D. Scott*

Mr. W. D. Scott, who relinquishes his appointment as Southern Regional Manager on 30th September, has been appointed a Billingham Division director with effect on and from 1st October with a view to succeeding Mr. S. A. H. Whetmore as a managing director of Billingham at the end of the year.

Mr. Scott came from the British Paint and Lacquer Co. to join the Explosives Division Sales Department in London in 1935, and in 1943 he was appointed joint deputy Regional manager of the Region. For the last six years he has been Regional manager.

## DYESTUFFS DIVISION

### *Presentation to Lord McGowan*

Mr. P. K. Standring, acting chairman of Dyestuffs Division, and Mr. A. Grenfell, works councillor of Grangemouth, spoke for the Division at a presentation ceremony to Lord McGowan, which took place at the George Hotel, Huddersfield, after a luncheon attended by more than seventy people, on 10th July.

The gifts, the outcome of voluntary subscription throughout the Division, were given to Lord McGowan to mark his retirement from the chairmanship of the Company earlier this year. They consisted of a silver tankard—a beautiful example of workmanship of the period of George II, made in Dublin in 1750—and a pair of silver salvers. The salvers, made in London over 150 years ago, were originally presented to Sir Lawrence Craigie, Glasgow's first Lord Provost, in 1800, by the magistrates and council of the city as a mark of their esteem.

Mr. Standring, who made the presentation, said in the course of his speech: "I have no doubt that over the years Lord McGowan must have experienced a number of occasions similar in some respects to this, but for myself I see in it a uniqueness which distinguishes it from the many and places it among the select few of the famous occasions in his life. I say this because this is a family affair; today we have the head of our family as our guest. We are proud to have him with us, we have a great affection for him, and I suspect that somewhere in his heart he has a rather special affection for Dyestuffs Division.

"We all know how, in 1926, four companies—Nobel Industries, United Alkali, Brunner Mond, and British Dyestuffs Corporation—came together in what we now call Imperial Chemical Industries Ltd. The inclusion of British Dyestuffs Corporation in that select association was interesting. It is a tribute to Lord McGowan's vision that at that time he saw the part which organic chemistry could play in the chemical industry, and that he took the bold step of drawing the young and inexperienced dyestuffs industry within the merger. It is good that at this moment Lord McGowan can see the justification of his faith, and we can take a quiet satisfaction in that today we are repaying his care and nourishment in reasonable measure."

Mr. A. Grenfell, who spoke in support of Mr. Standring, said he could not speak of Lord McGowan as Mr. Standring had with his closer contact with him. Mr. Standring had given a close-up picture and he could give only a very distant view. "Mr. Standring is in the inner circle," he said; "but even



*Mr. P. K. Standring, acting chairman of Dyestuffs Division presenting one of the silver salvers to Lord McGowan*

away out on the edge we do feel and appreciate the benefits of good leadership.

"Lord McGowan guided our Company through the difficult years of the early 'thirties, and all who were in industry at that time, both management and workers, know exactly how difficult those years were. He guided us through the war years, and led I.C.I. to far greater expansion than ever, before he decided to hand over the reins. During those years, too, we, the workers, got the Pension Fund, the Code of Working Conditions and all that goes with it, such as a decent rate of wages. I do not need to enumerate all that is in the Code of Working Conditions—you are as familiar with them as I am. We also got the shorter working week and two weeks' holiday with pay."

Lord McGowan, when he rose to reply, was greeted with great enthusiasm. He was at times in a reminiscent mood, and among his recollections gave a brief review of his part in the Company's history, of the joint companies abroad which he had helped to set up, and told of how our affairs overseas were prospering.

In referring to what the Company means in the life of the nation he spoke of the importance of our efforts and of Dyestuffs Division's contribution to the Company's sound financial position. The trading results of Dyestuffs Division during the last two years show that the turnover has increased in value by 10% over the 1948 figures. Lord McGowan laid emphasis on the necessity for continuous research effort and for finding further and better outlets for our inventiveness and skill. Since 1948 Dyestuffs Division has added to their selling range 63 new dyestuffs and 20 other products. During the same period the Division has expended the sum of £6,000,000 on new capital developments within its works and factories.

## GENERAL CHEMICALS DIVISION

### *New Appointments*

Mr. W. A. M. Edwards, Division Commercial Director, has been appointed Deputy Purchases Controller, I.C.I.

Mr. Edwards came to General Chemicals Division from Billingham in 1932. During the war years he was seconded to the Ministry of Supply to be Technical Assistant to the late Sir Frederick Bain—a position which no one was so well qualified to fill as he. After spending some few months in the



Sales Controller's Department in London Mr. Edwards was appointed to the Division Board in the autumn of 1945.

He is succeeded as Commercial Director by Mr. D. H. Carter. Mr. Carter joined the Division four years ago from Southern Sales Region to become Division Sales Control Manager. His experience with I.C.I. has been of a character to fit him well for his new duties. Joining the firm in 1928 at Billingham, he served for three years as a research and, later, process engineer. He spent eighteen months as Works Engineer with Steatite and Porcelain Products Ltd., returned to Billingham for a few months and then moved on to Fertilizer Sales in London. After five years in that department he moved to Southern Region as assistant to the Chemical Sales Manager. He served in the Army throughout the war and returned to the Southern Region in the autumn of 1945 as assistant to the Plastics Sales Manager, where he remained until he came to our Division.

### *Mr. W. J. Maltman*

We regret to report that Mr. W. J. Maltman, Division Finance Director, has had to retire on account of ill health.

Mr. Maltman came to I.C.I. in 1934 with other members of the staff of the Chemical and Metallurgical Company's works (when that works was taken over and became part of Gaskell-Marsh) and became works accountant. Gaskell-Marsh quickly found that they had got a man who not only was first class at his job but whose disposition made him extraordinarily easy to work with. He rapidly became guide, philosopher and friend to everybody in the place.

Early in the war he moved from Gaskell-Marsh Works to take charge of the accountancy and office administration side of the organisation in charge of the Ministry factories. Here again, in another sphere where government officials had to be dealt with, his qualities, both business and social, made the running of the organisation as smooth as anything of the kind in the country. At the end of the war he became Division Chief Accountant and then Finance Director.

## METALS DIVISION

### *Lord McGowan opens Swansea Festival*

It was with considerable pride that Swansea welcomed one of its four freemen, Lord McGowan, Honorary President of I.C.I., to open the city's Festival Exhibition, the Hall of Industry, on 23rd July. Among the displays representing various aspects of industry in the area I.C.I. Metals Division was responsible for a stand illustrating the development of the non-ferrous metals trade over the past hundred years.

Lord McGowan said it was very proper that, in celebrating the Festival, the city should emphasise its industrial development, for Swansea was undoubtedly one of the largest centres of industrial activity in the country. Swansea, Lord McGowan thought, bore two striking resemblances to his native Glasgow. In the past, both cities had been mainly dependent upon the heavy basic industries—therein lay their strength and their weakness. Each, too, had suffered recessions and depressions which interfered with continuous development, so that the story of both great centres was one of constant adaptation—often very painful—to new circumstances. As a port Swansea naturally had exceptional opportunities for maintaining a thriving export trade, and this was one reason why every effort should be made to broaden the basis of its economy by attracting new light industries to the area.

"I hope you will see in the exhibition," said Lord McGowan, "as I do, signs of great vitality and purpose—a good augury for Swansea's economic future. I believe in the spirit of our people, whose resourcefulness and daring carried us through the Battle of Britain, Dunkirk and Alamein, and will, if applied vigorously, help us successfully to solve our problems in a similar way as it did during the dreadful war years. In this I am sure Swansea will play its part."

### *Mr. M. J. S. Clapham*

Mr. M. J. S. Clapham, who has been with the Metals Division since he joined I.C.I. in 1938 and Division Personnel Director since 1946, becomes Midland Regional Manager on 1st October, while remaining a member of the Metals Division board.

Taking a classics degree at Cambridge in 1933, Mr. Clapham decided to make printing his career. After serving two years' apprenticeship with the Cambridge University Press, he spent the next three with Messrs. Lund Humphries of Bradford, starting as assistant overseer of the composing room and finishing as works manager. In 1938 Mr. Clapham joined The Kynoch Press. During the war he was seconded from the Metals Division for special work with the Department of Scientific and Industrial Research. When he returned to Witton his obvious talent for organisation led shortly to his transfer to the Division Personnel Department, and in 1945 he joined the Division board, on which he also represented the interests of The Kynoch Press.

Readers of the *Magazine* have reason to be grateful for Mr. Clapham's continued interest and practical help, and they, in common with his colleagues in the Metals Division, will wish him well in his new environment.



### *Mr. A. Pratt*

The ammunition departments of the Metals Division lost one of their best-known figures at the end of June, when Mr. Arthur Pratt left the Company's service. Mr. Pratt joined Kynochs in 1909, on the staff of the Gas Engine Department. He remained at Witton, working in various departments, until 1921, when he was transferred for six months to King's Norton Metal Co. as chief inspector of the Primus Stove section. On his return to Witton Mr. Pratt was appointed shop manager of the Sporting Ammunition Department, a position he held until his official retirement at the end of 1950. Even then, however, he had not come to the end of the store of wisdom and experience acquired and shared in his





long career, for he remained in B Factory for a further six months, acting in an advisory capacity.

In his 42 years with the Company Mr. Pratt has seen many changes and literally thousands of different faces, and it may truly be said that with his departure from Witton we lose a personality who will long be remembered and respected. His hosts of friends and colleagues wish him a long and happy retirement.

### *Another Triumph for I.C.I. Marksmen*

The successes reported last month in the results of the Montrose small-bore shooting matches have proved only a forerunner to even greater triumphs for I.C.I. at the national meeting at Bisley. The two most important events in the small-bore shooting calendar, the Earl Roberts Trophy competition and the Grand Aggregate, were both won by members of the Metals Division, using I.C.I. 'Tenex' ammunition.

Mr. John Hall, champion of the Montrose meeting, won the Roberts Trophy, which carries with it the title of National Champion of Great Britain, with a score of 597 (ex 600) after a tie shoot, Mr. T. J. Knight won the Aggregate with 1586 out of a possible 1600 points. These are both long and exacting shoots, and the success of the I.C.I. competitors was made more impressive by the fact that neither event had previously been won with British ammunition.

Messrs. Hall and Knight both did remarkably well in individual and team competitions, and their success in carrying off the major trophies is a just reward for steady good work in less spectacular spheres.



*Mr. J. Hall with his rifles and shooting trophies*

### *Asking for it*

In these days of short supply, would-be purchasers have been known to try many different types of approach. Seldom, however, can an enquiry have been couched in more heart-melting tones than the following, received by Metals Division from a potential customer living many miles away.

"My dear,

Since along time we are going, walking, to what only for cartridges. We have Rifles made in Canada, Proved 28 tons. It is more costly rifle and more beauty. But alas that in spite of all that . . . he has no cartridge.

We heard that there are cartridges in your company,

We requested you, that on reaching that letter, please soon returned letter on the same address.

Please soon answered, in letter, the price of 300 bore Revolver, whoes are of two kinds. one who eats 10 cartridges, no two who eats 20 cartridges.

Then we shall ordered you.

We shall become very thankfull, if you send us letter, and write in it that we have that cartridge, or no,

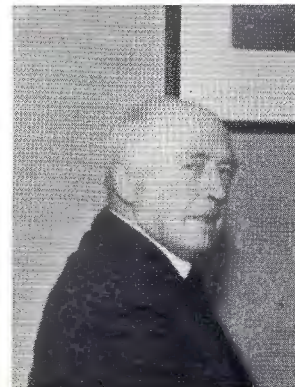
Thanking,"

## NOBEL DIVISION

### *Mr. J. A. Millar*

Mr. J. A. Millar, Nobel Division Safety Officer since 1st January, 1948, who retired from the Company's service on 31st July, was a well-known figure, not only in Nobel Division, where his enthusiasm for safety matters made him widely respected, but throughout I.C.I.

Before leaving the Division Mr. Millar was entertained in the Nobel House canteen, when he received a presentation from his colleagues. Mr. J. E. Lambert, the Division Production Director, was in the chair. He said that although Mr. Millar was retiring he was still brisk and fit, and it was the hope of all that he would enjoy many years of health.



Dr. J. W. McDavid, chairman of Nobel Division, then made the presentation. Mr. Millar had first joined Nobel's Explosives Co. Ltd. in 1917 in the Technical Department, Glasgow, and in 1921 he moved with that department to Stevenston. His career in safety fuse was one of the most valuable contributions he had made to the Company's prosperity. On 1st January, 1929, Mr. Millar was appointed assistant manager of the Regent Factory. Later he was one of those who had given great assistance in the design of the new Ardeer plant, which was one of the best in the world. When the transfer of plant had been effected Mr. Millar became chief superintendent of the new Safety Fuse Department in Ardeer.

Some seven years later he left the department to undertake general work on incentive schemes, but towards the end of 1942 his experience was harnessed to the national effort as works manager of St. Boswells. When the peak of the war effort was passed he returned to Ardeer as chief superintendent of Safety Fuse and Blackpowder Departments, a post which he held until 1948, when he undertook the responsibilities of Division Safety Officer.

As Division Safety Officer Mr. Millar had done a grand job in the factories, and, said Dr. McDavid, it might be that the work he had accomplished in the last three years was the finest he had done for the Division. He was a man of energy, and he had given everything without stint to whatever task he was doing. With great pleasure he asked Mr. Millar to accept binoculars and a coffee table as symbols of the good will he had earned and enjoyed.

In reply Mr. Millar said that he found himself pleased though embarrassed with their expressions of good will. His had been an interesting career in the Company; he had seen many changes, had enjoyed working with I.C.I., and had enjoyed his friendships in the Division.



### British Cycling Champion

Eighteen-years old Miss Iris Hault, of Westfalite Factory, is now the women's national 880 yards grass track champion of Britain. She won this distinction at Harworth Sports on 20th July, when she defeated Miss Pat Birne, the holder, in splendid time and by a convincing distance. The gold medal and championship vest are handsome awards for her prowess. These are not her only successes, and her friends confidently expect her to gain yet further distinctions.



Iris is a popular girl who works in the electric fuse section in Westfalite. She is a

member of Dearne and District Wheelers.

## PLANT PROTECTION LIMITED

### Agricultural Conference at Fernhurst

Joan, a camel lent by Chessington Zoo, and Neddy, a village donkey, were employed to carry liquid insecticide spraying equipment at a demonstration held recently at Fernhurst Research Station during the three-day conference, organised by Plant Protection Ltd. to discuss crop protection problems in agriculture, which was attended by agriculturists from all over the world.

In parts of the Sudan, where tractors cannot be used, the camel does not fear to tread. Plant Protection Ltd. is interested in any form of transport which can be used to carry liquid insecticide in territory where insect pests must be killed at all costs, and the Machinery Department at Fernhurst Station developed a spraying equipment which could be camel-borne. A further set of equipment was devised to fit the donkey to demonstrate how spraying could be carried out in hilly tracts, inaccessible except on foot.

A driver for Joan, film star camel of *Caesar and Cleopatra* and *Hotel Sahara*, was found through a newspaper advertisement. Sixteen men answered the advertisement, but the successful applicant was Capt. G. E. T. Francis, 41-year-old Acton Civil Servant, who gave up a day of his annual leave for the demonstration. Capt. Francis gained his knowledge of camels in India, where he trained about 2000 of them.

Joan, after one trial with Capt. Francis, walked sedately round the machinery demonstration field at Fernhurst in front of a distinguished audience of overseas visitors. On her back was mounted a pump. At each stroke of the pump, worked by Capt. Francis, liquid 'Agrocide' was drawn from pannier bags hanging at her sides and forced through flexible tubing to the spraying lances. These lances were handled by two men who kept pace with Joan, one on each side, as she walked round the demonstration field. Joan, "the camel with a pump on its hump," was obviously an attraction to both visitors and newspaper men who had come to watch the demonstration.

It was in the autumn of last year that the idea of holding an international conference to discuss crop protection problems in world agriculture was conceived. It was considered that 1951 would be a particularly good year in which to hold such a conference. The Third International Crop Protection Con-

gress, which was to have been held this summer in Paris, had to be postponed. This meant that Plant Protection scientists could fill the gap left by this postponement and also that they would have the opportunity to demonstrate in Festival year their contribution to the cause of world agriculture.

The conference was held at Fernhurst Research Station,



(Photo: Daily Mirror)

Joan, carrying the spraying equipment, with her driver, Captain G. E. T. Francis, and attendants during the demonstration

and distinguished scientists both at home and overseas were asked to speak. Over 150 delegates from over 39 countries overseas and from the United Kingdom arrived at Fernhurst to hear the opening paper by Sir John Russell.

Former director of the Rothamsted Experimental Station and chairman of the Agricultural Research Sub-committee of UNRRA, Sir John Russell spoke on Wastage of World Food Supplies through Pest and Diseases. He said that he had seen during this century an unprecedented increase in our knowledge of insect and fungus pests and in methods of controlling them. At the same time there had also been considerable increases in the number of pests and their recorded prevalence. Although wastage of food through pests and diseases was commonly estimated at 10%, Sir John thought that in many parts of the world this figure rose to 20% or more. In fact, total crop losses due to these causes probably equalled the world's food deficit.

## THE OCTOBER MAGAZINE

Our leading article in the October issue is an account of the Company's anhydrite mine—the only one in Britain—containing a most vivid description of working conditions in this underworld of Billingham. We have again employed Mr. Horowicz to draw action studies, and they bear comparison with his very successful drawings in the present issue. This article is followed by some fine photographs of the remote Sikhim Mountains on the North-East Frontier of India. They were taken by a member of the staff of I.C.I. (India). He is one of the last people to have succeeded in visiting this province, now closed to all travellers.

Next Mr. Peter Allen, Group Director for Plastics and Paints Divisions, writes on golfing personalities of the past; and Mr. R. M. Wallis of General Chemicals Division describes the pleasures of pot-holing.



# In Praise of Bulk

By A. S. Irvine (Alkali Division)

ONCE upon a time I weighed 9 lb. Since then I have never looked back, except when four years hard labour (on the Isis and Tideway) provided a drain on my input calories, otherwise so efficiently converted into *avoirdupois*. Now, some forty years after my first public announcement, I have proudly achieved 18 stone—252 lb. to our overseas readers—or an increase of 2800% on initial production. What other important part of I.C.I. can boast a like record?

Quite recently, amid all our modern passion for sameness and mediocrity amid this present-day cult of Solon's ancient aphorism μηδὲν ἄγαν: *do nothing well*—an insidious note has been sounded. The rotund figure has become a *bad thing*: almost, if not quite, antisocial! Daily papers champion this or that slimming diet; books are written about controlled starvation—and are actually sold; broadcasts regulate the minutest detail of a regimen as strict as that of an early Christian ascetic. Finally, the privacy of a million lives is invaded by the horrifying spectacle of the immolation of the once pretty Miss Plump, who, before our very eyes, is being scientifically starved into the angular uniformity of the planned figure.

What is at the back of this outburst of racial *hari-kiri*? With rationing and control on every hand, no one but a





millionaire can seriously outeat his neighbour. Therefore, we happy ones that outstrip our fellows on the bathroom scales must convert our food more efficiently into *us* than they do theirs into *them*. Therein, I firmly hold, lies the crux of the matter: in these fustian times anything out-of-the-ordinarily efficient is viewed with suspicion, be it a healthy and flourishing firm or a healthy and flourishing human. Viewed with suspicion—and jealousy!

Think of all the pleasure in this life that we owe to men and women more than ordinarily *embonpoint*: Henry VIII, who popularised divorce; Dr. Johnson, who popularised Scotland; Teddy Brown, who popularised the Xylophone; G. K. Chesterton, who popularised the Pub\*; Mae West who . . . well, why labour the point when instances fall so readily from everybody's tongue? Now run your mind over our popular murderers, these fellow citizens that have battered their wives into kingdom-come in fits of exceptional moroseness. Was there ever a fat man among them—or a fat but defunct wife for that? The inference is obvious—the mental calmness induced by the great feeling of well-being that the robust figure brings never could give rise to such an outburst of rage, however justified, that would bring us up the steps one never descends. The thin and starved, on the other hand, have nothing but filthy temper to fall back on in times of stress and it is in such paroxysms of anger that the dread deed is so often done.

Philanthropists and other benefitters of mankind, too, have nearly always been well covered: it is a commonplace that no decent overdraft has ever been wormed out of an emaciated bank manager.

The Arab, who boasts the oldest extant civilization, judges his nearest and dearest by the scales: and so do we if we are wise. These simple but sophisticated sons of the desert like to feel they have a security of some moment and consideration in their tents—acres of slappable flesh to go with the loaf, jug and book of verses in the nearest oasis. And who are we

\* Malt does more than Milton can  
To justify God's ways to man. *Verb. Sap.*







twentieth century upstarts to differ from them in the light of their three and more millenia of careful appraisal?

So much for broad generalities, now for more personal experiences of bulk. In whatever situation I have found myself—in a tent in the Arctic wastes; under a punkah in the brightest jewel in the Empire's crown; adrift on a raft in the South Atlantic; or even more adrift in a high-level conference at Winnington—I have never had anything but thankfulness for the extra pullovers that I carry under my skin when the stormwinds blow and my companions huddle in the shelter afforded by my oft-criticised bulk. Nor have I regretted the wonderful expanse of cooling surface provided by nature for the purpose when the shade temperature tops 120° F. at midnight and the dry wind puffs and eddies from the mouth of Khewra gorge—hot as from the hobs of hell.

Admittedly, I sometimes have to pause half-way up a hill to look at the view, and may even find it convenient to put on my shoes and socks before my trousers. There have been times, too, when an export suit-length of cloth has proved inadequate for more than coat and trousers, and the waistcoat has to be replaced by (not discarded for) a pullover. But what are these *trivia* compared with the advantages?

No, as always, and in these hard times especially, it is not the survival of the *fittest*, but the survival of the *fattest*. And who will deny that the future may not prove this rule even more conclusively?

Let us, therefore—those of us that run some eight or nine to the ton—lend our weight through the length and breadth of the Company to resisting this invidious and jealous attack on our comfort and metabolic efficiency. Away with shame and *slimming*! Restore to us your curves, Miss Plump! Burn Banting in effigy, stuffed with Hey! Divided we fall—united (on the other hand) we stand!

And one last word. Have any of you ever met a comfortably covered doctor that has ever recommended or prescribed a *slimming diet*? Not on your life! Starvelings all!





*"Low Tide"*

*Photo by A. Walker (Biltingham Division)*